

AMENDMENTS TO THE CLAIMS

Please amend the claims so that they read as follows:

1. (Currently Amended) A ~~personal care product comprising a preservative system, the preservative system~~ comprising a synergistic mixture of:

- (a) — (i) — a quaternary ammonium biocide having the formula $N^+R^1R^2R^3R^4X^-$;
 — (ii) — a polymeric quaternary ammonium biocide, or
 — (iii) — a mixture thereof a benzethonium salt; and
 — (b) — dehydroacetic acid or a salt thereof, ~~a ketone acid or salt thereof~~;

wherein R^1 and R^2 are independently unsubstituted or hydroxy-substituted linear or branched C_1 - C_4 alkyl, $(CH_2CH_2O)_mCH_2CH_2OH$, or $(CH_2CHCH_2O)_mCH_2CHCH_2OH$ where m is 1 to 10; R^3 is a substituted or unsubstituted benzyl, ethylbenzyl, methylnaphthyl, or linear or branched C_1 - C_{22} alkyl; R^4 is $R^5(O)_n(C_6H_4)R^6$ where n is 0 or 1; R^5 is a substituted or unsubstituted C_1 - C_8 alkyl or C_1 - C_8 alkoxyalkyl; R^6 is hydrogen or a substituted or unsubstituted, linear or branched C_1 - C_{12} alkyl; and X^- is an anion.

Claims 2-4 (canceled)

5. (Currently Amended) The ~~personal care product~~ preservative system of claim [[4]] 1, wherein the benzethonium salt quaternary ammonium biocide is benzethonium chloride.

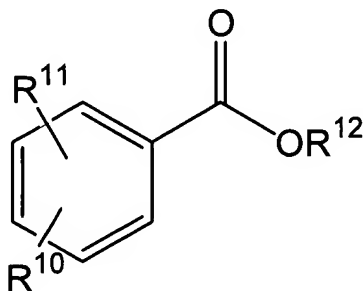
Claims 6-20 (canceled)

21. (Currently Amended) The ~~personal care product~~ preservative system of claim 18 1, wherein the dehydroacetic acid or salt thereof is encapsulated in cyclodextrin.

Claims 22-23 (canceled)

24. (Currently Amended) The ~~personal-care product~~ preservative system of claim 82, wherein the aromatic carboxylic acid is benzoic acid, a derivative thereof, or a salt thereof.

25. (Currently Amended) The ~~personal-care product~~ preservative system of claim 82, wherein the aromatic carboxylic acid has the formula



wherein R¹⁰ and R¹¹ are independently H, -OH, or -OC(O)CH₃; and R¹² is H, Na, K, Ca, or Mg.

26. (Currently Amended) The ~~personal-care product~~ preservative system of claim 82, wherein the aromatic carboxylic acid is a hydroxy benzoic acid, derivative thereof, or salt thereof.

27. (Currently Amended) The ~~personal-care product~~ preservative system of claim 26, wherein the hydroxy benzoic acid is salicylic acid or a salt thereof.

28. (Currently Amended) The ~~personal-care product~~ preservative system of claim 27, wherein the salt of salicylic acid is sodium salicylate.

Claims 29-30 (canceled).

31. (Currently Amended) The ~~personal-care product~~ preservative system of claim 1, further comprising a solvent.

32. (Currently Amended) The ~~personal-care product~~ preservative system of claim 31, wherein the solvent is water, an alcohol, a glycol, an ester, an ether, a polyether or any combination of any of the foregoing.

33. (Currently Amended) The ~~personal care product~~ preservative system of claim 1, wherein the composition comprises a biocidally effective amount of the benzethonium salt quaternary ammonium biocide.

34. (Currently Amended) The ~~personal care product~~ preservative system of claim 1, wherein the composition comprises a fungicidally effective amount of the benzethonium salt quaternary ammonium biocide.

35. (Currently Amended) The ~~personal care product~~ preservative system of claim 1, wherein the weight ratio of the dehydroacetic acid or salt thereof ~~ketone acid~~ to the benzethonium salt quaternary ammonium biocide ranges from about 0.00056:1 to about 1990:1.

36. (Currently Amended) The ~~personal care product~~ preservative system of claim 35, wherein the weight ratio of the dehydroacetic acid or salt thereof ~~ketone acid~~ to the benzethonium salt quaternary ammonium biocide ranges from about 0.0056:1 to about 1400:1.

37. (Currently Amended) The personal care product of claim ~~1~~ 51, wherein said composition comprises from about 0.00005 to about 0.5% by weight of dehydroacetic acid or salt thereof ~~ketone acid~~ and from about 0.00005 to about 0.45% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

38. (Currently Amended) The personal care product of claim 37, wherein said composition comprises from about 0.0005 to about 0.35% by weight of dehydroacetic acid or salt thereof ~~ketone acid~~ and from about 0.0005 to about 0.2% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

39. (Currently Amended) The ~~personal care product~~ preservative system of claim 82, wherein the weight ratio of the aromatic carboxylic acid to the benzethonium salt quaternary ammonium biocide ranges from about 0.00056:1 to about 1990:1.

- (d) benzoic acid or a salt thereof;
- (e) phenoxyethanol; and
- (f) benzyl alcohol.

48. (Original) The preservative formulation of claim 47 comprising:

- (a) from about 5 to about 40% by weight of dehydroacetic acid;
- (b) from about 1 to about 20% by weight of benzethonium chloride;
- (c) from about 2.5 to about 20% by weight of salicylic acid;
- (d) from about 2.5 to about 20% by weight of benzoic acid;
- (e) from about 20 to about 50% by weight of phenoxyethanol; and
- (f) from about 5 to about 50% by weight of benzyl alcohol,

based upon 100% total weight of preservative formulation.

49. (Original) The preservative formulation of claim 48 comprising:

- (a) about 10% by weight of dehydroacetic acid;
- (b) about 5% by weight of benzethonium chloride;
- (c) about 10% by weight of salicylic acid;
- (d) about 10% by weight of benzoic acid;
- (e) about 35% by weight of phenoxyethanol; and
- (f) about 30% by weight of benzyl alcohol,

based upon 100% total weight of preservative formulation.

50. (Original) A composition comprising from about 0.01 to about 2% by weight of the preservative composition of claim 48.

51. (Currently Amended) A personal care product comprising a preservative system, the preservative system comprising a synergistic mixture of:

- (a) a benzethonium salt; and
- (b) dehydroacetic acid or a salt thereof, ~~and.~~

52. (Previously Presented) The personal care product of claim 51, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

53. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a shampoo.

54. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a conditioner.

55. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a soap.

56. (Previously Presented) The personal care product of claim 51, comprising an anionic formulation.

Claims 57 - 61 (Canceled).

62. (Previously Presented) The personal care product of claim 43, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

63. (Currently Amended) The ~~antimicrobial composition~~ personal care product of claim 62, wherein the personal care product is a shampoo.

64. (Currently Amended) The ~~antimicrobial composition~~ personal care product of claim 62, wherein the personal care product is a conditioner.

65. (Currently Amended) The ~~antimicrobial composition~~ personal care product of claim 62, wherein the personal care product is a soap.

66. (Currently Amended) The ~~antimicrobial composition~~ personal care product of claim 43, wherein the personal care product comprises an anionic formulation.

Claims 67-75 (Canceled)

76. (Previously Presented) The preservative system of claim 46, wherein the preservative system is incorporated into a personal care product.

77. (Previously Presented) The preservative system of claim 76, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

78. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a shampoo.

79. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a conditioner.

80. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a soap.

81. (Previously Presented) The preservative system of claim 76, wherein the personal care product comprises an anionic formulation.

82. (Currently Amended) The ~~personal care product~~ preservative system of claim 1, further comprising an aromatic carboxylic acid or a salt thereof.

83. (New) The preservative system of claim 82, wherein the preservative system is incorporated into a personal care product.

84. (New) The preservative system of claim 83, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

85. (New) The preservative system of claim 83, wherein the personal care product is a shampoo.

86. (New) The preservative system of claim 83, wherein the personal care product is a conditioner.

87. (New) The preservative system of claim 83, wherein the personal care product is a soap.

88. (New) The preservative system of claim 83, wherein the personal care product comprises an anionic formulation.